DOCUMENT RESUME

ED 141 225 SO 010 079

TITLE	The Humanities Strand of Project Search. The Humanities Series.
INSTITUTION	State Univ. of New York, Albany. Office of the Regents.
SPONS AGENCY	John D. Rockefeller, 3d Fund, New York, N.Y.
PUB DATE	76
NOTE	54p.; Table on page 37 may not reproduce clearly ; The entire document is of marginal legibility due to small print size
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	Affective Behavior; *Affective Objectives; *Cognitive Objectives; Critical Thinking; *Educational Objectives; Elementary Secondary Education; *Humanistic Education; *Interdisciplinary Approach; Moral Development; Moral Values; Process Education; Skill Development; Social Responsibility; Social Values; *Values
IDENTIFIERS	Project Search

ABSTRACT

The educational objectives of Project Search are discussed. Project Search is a pilot consortium of school districts across the state of New York which was initiated by the University of the State of New York. Focusing on the need for humanistic education in elementary and secondary schools, the project attempts to serve as a vehicle for integrating different subject areas into a cohesive curriculum. Emphasis is on helping students develop the means to make value commitments. The first objective of the project is the teaching of reasoning skills. These are essential for the clear consideration and assessment of values. Affective education, the project's second objective, is integral in the development of the whole person. A third objective is an interdisciplinary approach, which can be put into effect by such strategies as inviting outside speakers to the classroom and "fusing" two or more courses into an integrated unit. Values education is the fourth objective of Project Search. The values inquiry steps which the project proposes have been designed on the premise that a person is the sum of his choices. A selected bibliography follows the discussion of each of the project's objectives. This issue is part of the humanities series of the University of the State of New York. (Author/MK)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

THE HUMANITIES SERIES

The HUMANITIES STRAND of PROJECT SEARCH

A PROJECT SEARCH DEVELOPMENT

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED141225

SP 010 079

The University of the State of New York
The Board of Regents
Albany, New York 12234
1976

THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of The University (with years when terms expire)

1981 Theodore M. Black, A.B., Litt.D., LL.D., Pd.D., D.C.L., Chancellor.....Sands Point

1987 Carl H. Pforzheimer, Jr., A.B., M.B.A., D.C.S., H.H.D., Vice Chancellor.....Purchase

1978 Alexander J. Allan, Jr., LL.D., Litt.D.....Troy

1981 Joseph C. Indelicato, M.D., L.H.D.....Brooklyn

1986 Kenneth B. Clark, A.B., M.S., Ph.D., LL.D., L.H.D., D.Sc.....Hastings on Hudson

1983 Harold E. Newcomb, B.A.....Owego

1988 Willard A. Genrich, LL.B., L.H.D., LL.D.....Buffalo

1982 Emlyn I. Griffith, A.B., J.D.....Rome

1977 Genevieve S. Klein, B.S., M.A.....Bayside

1981 William Jovanovich, A.B., LL.D., Litt.D., L.H.D.....Briarcliff Manor

1983 Mary Alice Kendall, B.S.....Irondequoit

1984 Jorge L. Batista, B.A., J.D.....Bronx

1982 Louis E. Yavner, LL.B.....New York

1979 Laura B. Chodos, B.A., M.A.....Clifton Park

1980 Martin C. Barell, B.A., I.A., LL.B.....Great Neck

President of The University
EWALD B. NYQUIST

THE HUMANITIES SERIES

The Humanities Series addresses essential aspects of contemporary humanities education, a process-oriented approach to human concerns, adaptable to varied content areas. The Humanities Education Unit personnel, responding to the growing demands of humanities educators in the schools, developed the series to provide rationales, flexible guidelines and appropriate skills to meet the needs of students, kindergarten through grade 12, in an age of change.

HUMANE LIFE-COPING SKILLS

THE HUMANITIES STRAND OF PROJECT SEARCH

CRITICAL THINKING AND REASONING: A Handbook for Teachers*

DESIGNING INTERDISCIPLINARY STUDIES PROGRAMS*

VALUING: A Discussion Guide*

DEVELOPING INSTRUCTIONAL OBJECTIVES FOR HUMANITIES PROGRAMS*

HUMANITIES EXPERIENCES AT NEW HARTFORD: Student-Produced Films*

INSERVICE APPROACHES FOR HUMANITIES EDUCATION*

HUMANITIES EDUCATION: A Planning Guide

AESTHETICS OF FILM AND TELEVISION

VALUES: Simulations for the Classroom

PROJECT SEARCH EVALUATION*

*Project SEARCH Developments, with support from the JDR 3rd Fund and Title III of the Elementary and Secondary Education Act. Project SEARCH, a pilot consortium of school districts across New York State, 1971-75, implemented the major objectives of contemporary humanities education.

Foreword to the Humanities Series

The need to humanize education defines a vital educational goal. Few schools have succeeded in developing learning environments humanistic in process, in content, or in perspectives. The Humanities Series addresses aspects of concerns related to the value commitments open to each individual and to the consequences such choices have on the individual and on others. Contemporary humanities education seeks to achieve its objectives in four categories of student behavior.

This issue of THE HUMANITIES SERIES provides an introduction to the four categories which constitute the objectives of Project SEARCH. Project SEARCH, a consortium of school districts in New York State (1971-75) developed in-service staff programs, curricula and student learning experiences based on these four objectives. Several titles in the Humanities Series incorporate outcomes of Project SEARCH. The objectives are:

1. *Reasoning:* If the freedom of people consists in determination of choices by factors within themselves, we often say that it is their intelligence or reason which governs their purposive activity. Reasoning means the individual can modify her or his conduct to meet new situations. The person can not only change, but grow. Each one can profit from past experience. Each can become responsible.

2. *The Affective Domain:* Education has long concerned itself with the cognitive, with knowledge--as if there were only one kind of knowledge, factual data. However, a complementary aspect of people, each person's affective powers, can deter or enhance their cognitive development. How children or adults feel about wanting to learn, how they feel as each learns, and what each feels after learning--these lie in the affective domain. These neglected aspects, the vital area of attitudes and personally held values, form an integral concern of the humanizing learning process. Such self-awareness helps the possessor cope with change.

3. *Interdisciplinary Learning:* Fragmentation of learning, the separation of disciplines into isolated compartments, too often leaves even the able student frustrated. Knowing many facts, the learner still understands neither the interrelationships between disciplines nor their personal and social significance. The curriculum

envisioned by humanities education integrates the arts, the physical, social and behavioral sciences and other disciplines, pursuits and circumstances whenever such interdisciplinary instruction and experiences contribute to a whole life view.

4. *Values:* The basic values which undergird the American way of life and which have guided the actions of people for centuries are being severely tested in an era of rapid technological change, social readjustment, and population expansion. The shattering impacts of these changes are most visible among the young. Schools, to be successful in helping young people develop values that will give them a sense of direction, must offer opportunities for students to make wise choices from among alternatives.

Reasoning, affect and interdisciplinary learning are seen as supporting the process approaches to values development. These concepts cover a very broad range of human activity. The purpose of the Humanities Series is to help teachers design student learning experiences related to these categories.

In addition, humanities education seeks to support these four objectives through three major strategies:

1. PROCESS APPROACH: Change is so rapid that no one can predict precisely what knowledge and information individuals will need to know in just a few years. Humanities education sees a compelling need to develop an educational approach based on adaptable process skills, secondarily on content. These process skills, transferable and dynamic, including the individual's perceptual, motor, affective, cognitive, and social interaction skills, will enable a student to cope with a changing world.

2. UTILIZING COMMUNITY CULTURAL RESOURCES: Any system of education which represents a marked departure from traditional learning will fail if it ignores the community's needs, resources and aspirations. School and community must be integrally related both in planning and implementing educational change. Most adults have been educated under a system very similar to the system operating today. These adults must be involved in the new thinking and research on the nature of learning if we are to anticipate their cooperative support. In addition, the school must view

the community as what it is, an extension of the school. Such interaction between school and community which encourages free reciprocal flow of learners and instructors can result in realistic, exciting learning activities. Not only will students enter the community for learning experiences, but professionals, craftsmen, artists, farmers, retired citizens will likewise share their competencies with youthful learners within the school.

3. INDIVIDUALIZED INSTRUCTION: Humanistic education focuses on the worth of the individual, on the self-actualization of each girl or boy. Implicit in the program are varied opportunities for each student to participate in sequenced learning experiences adapted to individual capacities and responsive to individual interests. Such learning experiences can help each student discover his or her potential, challenge latent abilities, prepare each to make appropriate, unique and effective contribution in a changing society. The Humanities Series is dedicated to helping our youth by providing administrators and teachers with a process approach to all learning, a humanizing process which will enable our boys and girls to life not only the good life, but the life worth living.

Charles J. Trupia, Supervisor,
Humanities and Performing Arts
Education Unit

Albany, New York
March, 1976

PREFACE

Aims and Scope of Project SEARCH

Project SEARCH is an attempt to bring about an overall improvement of education. The underlying need to which Project SEARCH is directed is that of humanizing education. The project is a cooperative program developed for and by teachers and administrative personnel across New York State. It involves several hundred teachers from both public and parochial schools; it encompasses tne learning activities of students from K-12.

Five school districts--Fonda-Fultonville, Fredonia, Greece, New Hartford and Utica (including St. Francis de Sales parochial school)--represent the rural, suburban and urban communities which are cooperating in the project. Each district is supported by the cooperative efforts of its area Board of Cooperative Educational Services. These Boards provide services to the project schools and disseminate project results to school districts throughout the state for adaptation.

Under the auspices of The University of the State of New York, the Division of the Humanities, Arts and School Libraries is participating in the coordination of this project. Various other organizations are providing services in such areas as curriculum development, evaluation and dissemination.

A Statewide Coordinating Committee, composed of representatives of the project schools, BOCES, and the State Education Department, makes all recommendations and/or decisions affecting the overall coordination, implementation and evaluation of the project.

Focus of SEARCH

There is no more vital educational issue than the need to humanize education. Few schools have succeeded in developing humanistic learning environments either in process, content or perspective. The need to which this project is addressed is the humanizing of education in elementary and secondary schools. Humanistic education deals with the alternative value commitments open to man and the consequences that his choices have on himself and his fellow man. Project SEARCH attempts to serve as a vehicle for weaving together various subject areas to provide the cohesion and purpose needed to develop a curriculum which focuses on making value commitments. These commitments are necessary in aiding each young person to face up to the great questions of ethics and values, of life, and of commitment to purpose.

The Regents brought the concept of SEARCH to light in a statement of policy and of proposed action, their position paper entitled Humanities and Arts in Elementary and Secondary Education. In a foreword, President of The University of the State of New York, Ewald B. Nyquist, used the key phrase in his opening sentence: "We must strive to make the teaching and learning process more humanistic. By this we mean to stress education which emphasizes the importance of man, his nature and place in the universe; teaches that all persons have dignity and worth; studies man's accomplishments, especially those that tend to enrich the quality of life; and searches for the means to repair our savaged environment, to satisfy one's emotions and aspirations, and to develop a personal lifestyle. We need to increase humanistic concern in order to redress the value imbalances of a technological and material-oriented society."

Fundamentally, Project SEARCH is an attempt to help students apply both intellect and feeling to the problems of living and to develop the reasoning processes and modes of expression that will lead to intelligent, responsible decisions.

No coordinated, large-scale effort has been mounted, heretofore, to devise learning situations which will implement these qualities, test them and make the results available. The individual project schools and BOCES, have identified these as important needs in their learning situations and seek their realization through varying approaches to be found in the vital areas of attitudes and values, interdisciplinary learning and individualized instruction.

Special appreciation is expressed by the Project SEARCH participants to the contributors of this report.

- To Clyde Evans, Professor of Philosophy at the University of Massachusetts, Boston, Massachusetts, for his distinctive approach to the chapter on reasoning.
- To Dorothy Lindsay, Project Trainer at Greece, New York, for the chapter on affect. Her work for the Greece Central School District has given great emphasis to this objective.
- To Terrell Bynum, Director, National Information and Resource Center for the Teaching of Philosophy, Albany, New York, who prepared the scholarly materials on a difficult topic--interdisciplinary approaches.

- To the Project SEARCH coordinators for their review and constructive comments.

- Appreciation is expressed to David S. Abbey, Professor of Education at the Ontario Institute for Adult Education, Toronto, Canada, for his many contributions to Project SEARCH. He has been a valued advisor to the project since its initiation.

- This publication was edited and prepared for printing by Katherine V. King and William R. Clauss, Associates for Humanities Education.

TABLE OF CONTENTS

The Humanities Series..... ii

Foreword to the Humanities Series..... iii

Preface..... vi

The First Objective - Reasoning Skills..... 1

The Second Objective - Affect..... 11

The Third Objective - Interdisciplinary Approaches..... 23

The Fourth Objective - Values Inquiry..... 32

The First Objective

Reasoning Skills

This objective is so broad and all-pervasive that is is possible to include a host of things under this heading. However, for our purposes here we can think of reasoning skills basically as those skills or abilities involved in the following: the drawing of inferences or conclusions through the use of various thinking processes such as deduction, induction, inference, translation, interpretation, extrapolation, and synthesis.

There are many variations of this definition, depending on the interests of the definer. But for the most part they all amount to much the same thing. We would, though, like to introduce one addition to our definition of reasoning skills. We would like to speak of critical thinking as being composed of two parts: 1) reasoning skills, and 2) what can be called the "critical spirit" or "critical attitude." We believe this critical spirit is an essential feature, for it determines how the particular skills themselves are or are not used. But with that said, we shall, for the rest of this discussion, treat reasoning skills and critical thinking as essentially interchangeable.

There have been some major theoretical investigations into the general area of thinking processes in children, their cognitive development, and so forth. (See the work of John Dewey, Jean Piaget, Jerome Bruner. See also a study by R. H. Ennis on the readiness of adolescents to learn deductive logical principles.) However, there has not been the same kind of attention given to more practical, "ready-to-use" ideas which would get reasoning skills and critical thinking directly and immediately into the classroom. We will mention now the work of several people who have been working closer to this end of the spectrum.

Edward D'Angelo[1] has been concerned with critical thinking from both the theoretical and the practical point of view. He has devised concrete teaching strategies, conducted workshops for teachers, devised self-study units for students. Matthew Lipman is trying to introduce students to the basic methods (and ideas) of philosophical thought; this turns out to be very close to what we mean here by reasoning skills and critical thinking. He has written a novel about children which introduces these methods and ideas. He has trained teachers in the use of this novel. He is now preparing a teacher's manual and text for grades K-8. Finally, Clyde Evans has been very concerned recently with introducing critical thinking into the learning processes in the schools. But rather than use specially designed materials he has been attempting to devise ways

[1] See bibliography at the end of this chapter for references.

to introduce critical thinking by means of the material already in use. He feels this had the advantage of showing that these skills permeate everything learned by the student, and not just the reasoning "materials." Dr. Evans has also been conducting workshops for teachers in the Project SEARCH schools to help them first improve their own critical abilities.

Need for the Objective

The need for this objective is rooted in the very nature of the educational process, i.e., the need of a learner to clearly consider and critically assess all that he or she encounters in the process of learning. Whether a student is concerned with pure or applied sciences, with the arts, with political, economic, and legal systems, or with moral codes, he or she is unavoidably confronted with instances in which someone is attempting to connect one idea (thought, thing) with another, or attempting to make inferences from one idea to another. And it is in understanding the nature of those connections, and in assessing the strength of those connections that the essence of the learning process resides. For true learning consists not merely in finding out that something is the case. It involves, more importantly, understanding the basis upon which that something is believed or thought or known to be the case. And here is precisely where the connecting on one idea with another appears. For what is required is precisely to show why, on the basis of X, Y is thought to be the case, or thought to be true, correct, and so forth.

It is in understanding this connection between the claim itself and the basis or ground for the claim that the crucial step in learning occurs. For when students have grasped the nature of that connection, they know not only the what, but also the why. They have not had a fact or claim or value merely impressed upon their memory or consciousness. Rather they have gained some insight and understanding into why such a claim is held, or why something is taken to be a fact, or how such a fact is related to other accepted facts, or why such a value should or should not be held. It is only when students thus have some idea of how the pieces fit together that the total picture can have any real meaning for them. Only then can the students reconstruct the final picture for themselves, because only then do they understand the nature of the relationships between the various pieces. Only then do we wish to say that students have truly "learned," as opposed to merely being taught to respond in a certain way.

Now, if it is correct that this is what constitutes true learning--regardless of subject matter, or topic--then it is seen that at the heart of this true learning lies understanding of and facility with reasoning skills. This is so because quite simply these are precisely the skills required in ascertaining, detecting,

assessing, and so forth, the connections between ideas, which (as we have seen) are the very essence of the learning process. These are the skills that are used whenever we attempt to connect one idea with another and to make inferences from one idea to another. Thus we see that the need for this objective, i.e., reasoning skills, stems from the very nature of the learning process. Furthermore, facility with these skills is an absolute prerequisite for true learning to take place.

It is in the application of these acquired skills that true learning takes place: 1) Students focus on the grounds, the support, the "reasons why" which stand behind the "what" they have learned. Thus they learn "from the inside out;" and what they learn truly becomes a part of them. 2) They learn to assess critically the thought behind what they are taught, and not just blindly to accept the result or product of that thought. Thus, for example, they attend to the reasons why a historian or archeologist teaches us that certain things about the past are true, i.e., they look at what basis the archeologist has for believing such a thing to be true; they attend to the rationale behind why an artist or writer teaches us certain things about life or about human nature; they pay attention to the grounds their classroom teacher has for teaching them that certain things are the case. 3) They take what they have learned, trace out the implications of that learning, and see what meaning or significance (if any) it has for them and their personal lives. It is in this last feature that any learning produces its "cash value." It is in these ways that students can be truly said to 1) have learned something, as opposed to being merely "taught," and 2) have learned something for themselves, in the sense that what is learned remains not a mere tidbit to be displayed on appropriate occasions, but rather has somehow been woven into the total fabric of their lives, and in some way enriched that life. And since all these aspects require those skills included under this objective, we see again that the reasoning skills form the very heart of the entire enterprise of learning--and teaching.

Connection With Values Inquiry

All that has been said so far obviously applies to learning of any kind, showing, therefore, that reasoning skills are important for learning of any kind. But the operation of these skills is especially vital when it comes to values inquiry (another of the Project SEARCH objectives). This process is only important--indeed could only exist--because of two features of our culture: 1) we live in a pluralistic society, with many competing and sometimes conflicting values. There is no homogeneous, universal, monolithic system of values adherred to by all. Thus, since there are many values, the following question inevitably arises: "Which values?" 2) new members of our society, children, have some

degree of freedom in choosing those values to which they will give assent. That is, no one is completely, totally formed (from the outside) in the sense of being conditioned or indoctrinated. This means that each individual (to some extent) must inevitably ask: "Which value for me?" We must appreciate that values inquiry is important only against this background. And indeed in the absence of these two features, there would be no such thing as values inquiry.

However, as soon as we appreciate these two features, we see that choice is at the heart of the values inquiry process: first, because there are alternatives from which to choose; second, because we have the freedom to choose. But either our choosing will be arbitrary or capricious or it will be done upon some basis or other. Hence to avoid abritrary caprice we must, in each particular case, ground our choice on some basis or other; we much choose in the light of some consideration or other. In short, we must connect our choice with something else which recommends that particular choice. And since every alternative (choice) will have something to recommend it, this requires, finally, that we have the capacity for discernment, so that we can make that choice which has the most to recommend it. This requires, in other words, that we possess the skills of reasoning and critical thinking so that we can judge which alternative has the most in its favor, or which value seems most attractive--on the basis of the arguments which can be given for and against.

Now, as is easily seen, this is precisely the kind of interconnectedness which so intimately involves the reasoning skills. Here, it is the reasoning skills which enable us to analyse a situation into its component parts for consideration, to identify the various alternatives, to trace out the implications of each alternative and assess in terms of the possible consequences, to judge the different aspects of the situation for their relevance or validity to ourselves, to evaluate alternatives with respect to any normative criteria we might wish to bring to bear.

All of these steps, each essential to values inquiry inherently involve careful, thoughtful reflection, analysis and synthesis, making of distinctions, connecting of ideas, drawing of inferences, and so forth. And these are just the skills developed in reasoning and critical thinking. So we see that values inquiry, at its heart, requires, presupposes precisely those skills which fall under the reasoning objective; and this process could not take place unless one possessed those same skills.

Clearly reasoning skills and critical thinking are central to any real learning of any kind. This is just as true of learning in the affective domain (notice how the possession of both critical

skills and the critical spirit provide a concrete foundation and mechanism for developing the autonomy and internal criteria of evaluation so necessary for affective growth - as expressed in the passage from Maslow quoted on page 13 below), or in interdisciplinary studies (see the extensive use of reasoning in the example of the "interdisciplinary" artist on pages 27-28 below), as it is in arithmetic. But we have also seen that these skills have particular significance for the values inquiry process. This significance is so crucial that we can safely say that these skills are a necessary condition for rational inquiry about values.

Skills Developed by the Objective

There are a host of individual skills which could be listed under this objective. Some of the more prominent ones are: Deduction, Inference, Assumption, Loaded Language, Analysis, Tracing out Implications, Consequences, and Use of Evidence.

Deduction, Inference. This is just the skill involved in having the ability to reason--clearly, cogently, correctly--from one point to another. Some classroom activities useful in the development of this skill: have students practice putting short arguments in clear logical form. E.g., have them separate the conclusion of an argument from its supporting premises, i.e., separate the point a person is trying to make from the reasons that he or she gives to back up that point. This will get students to notice that there is a connection between the main point and the supporting reasons, and that sometimes this connection is stronger than at other times. For older students, there are some standard kinds of arguments which could be studied with profit, because they occur so commonly in everyday life. You could also study, with great profit, the very common fallacies (errors in reasoning) that occur all too frequently in daily life. For students of all ages, one could show how reasoning processes take place in nearly every aspect of life, although usually not made explicit.

Assumptions. The objective here is to have students realize that frequently a speaker or writer will tacitly assume certain things without announcing this to the listener or reader, and that sometimes these assumptions are absolutely necessary for this particular line of reasoning to be persuasive. Students must be able to detect such a "missing link" and be able to articulate the missing assumption(s). For only then can they make an assessment of the missing premise, weigh it for relevance, judge it for reasonableness, test it for accuracy. Only thus can they decide to accept it or reject it, and hence accept or reject the entire line of thought, the reasoning which depends upon it.

Activities: 1) give students a situation about which they have only partial knowledge or information. Ask them to draw whatever conclusions they can. Then go back and together isolate the assumptions that were made in order to reach those conclusions, i.e., state what further pieces of information were supplied by the students. 2) Read a story. Then ask students to state what further things they can conclude about the characters, situations in the story, outcome of some of the events of the story. Then again go back and isolate the assumptions made. Give particular attention to the extent to which these assumptions were explicitly realized by the students who made them. (Mystery stories should prove especially fruitful for this skill.)

Loaded Language. The point here is simply to have the students become sensitive to the many ways in which language can be used to distort, distract, oversimplify, insinuate, and appeal to emotions. These are the myriad ways in which a person can try to win assent by the "manner of presentation" rather than on the merits of the position.

Activities: have students read passages containing "loaded" language, identify the words, explain the author's intent and technique; have students re-write passages to "load" in one direction or another, or make neutral; have students clip out passages from newspapers, magazines analyse them for loaded language and then discuss with class; have students be on the lookout for such passages in their textbooks and in classroom discussions.

Analysis. One of the skills required is the ability to keep separate the distinct strands in a particular line of thought or reasoning. This helps us avoid mixing-up issues which should be kept apart. One way to help develop this skill is to have classroom discussions in which this conflation is likely to occur. Then one can draw the students' attention to the error. (Here, as always, a necessary aspect is that the teacher be able to recognize such incidents when they occur. Hence, the necessity for the teacher to be adept at this skill). For example, suppose there is a discussion about which particular course of action to follow. Some students say we should not follow course A because it would be unfair. They then proceed to explain how the unfairness arises and why it is unfair. Then at the end they add that also we might get caught. Here is a mixing-up of grounds. There may (or may not) be persuasive grounds because of fairness; there may also be persuasive grounds because of possible apprehension and punishment. But these are two separate kinds of grounds, reasons, justification for deciding against course A, and they should be kept distinct.

Tracing Out Implications, Consequences. Another skill required is the ability to "see what follows" from a given decision, choice, idea, position, or claim. This is the ability to say "if A is the case, then B must follow." This skill is involved whenever we try to foresee consequences, whenever we try to see "what else" we are committed to once we accept a certain position.

Classroom activities: 1) in the discussion of dilemmas have students try to figure out the result, outcome, consequences--short-term and long-term--of each of their proposed solutions. 2) Play the game "What if...?" Even wildly hypothetical situations are fruitful, for the students are still engaged in trying to see "what would happen." 3) Role Playing. Here is required the obvious empathetic insight into another person whose role is being assumed. But there is also required a certain amount of attention to what consequences should follow given the make-up of the other person as perceived by the role player.

It is worth making a note here that is both important and relevant to all the other skills and activities as well. Role playing is no revolutionary idea unveiled here for the first time. It is something which good teachers have been doing all along. It is also something which children love to do on their own. So what is being suggested here is not the introduction of a radically new activity into the classroom. Rather, what is being suggested is the addition of a new dimension to an already existing activity. This new dimension is nothing more than giving explicit, deliberate attention to the reasoning processes which are going on all the time. Thus it is not being proposed that either the teachers or the students do anything new. Rather the proposal is that they both become more consciously aware of the reasoning processes--and the quality of those processes--present in what they are already doing. This approach should also help to make the point that the "field of application" of these reasoning skills is quite literally anything and everything done in the classroom.

Use of Evidence. This is the ability to use partial information, knowledge to learn as much as we can, but without overstepping the warrantable, defensible grounds for drawing conclusions. The study of inductive arguments is helpful here; also discussion of generalizations, circumstantial evidence, and so forth.

Activities: present to the class (or preferably have them do it) hypothetical or real situations containing partial information, incomplete evidence. Then have them draw what conclusions they think they can. Afterwards discuss together the various suggestions (conclusions), giving attention to the simplicity of the hypotheses suggested, the frequency of the hypotheses, or the presence of far-fetched hypotheses. You might also discuss how one might decide between the various proposals, e.g., what further evidence could differentiate between them.

Selected Bibliography

The literature, of things immediately usable to the teacher, is not massive. The selection below covers the last ten years, and lists what seems to be the most helpful pieces. Since the essential first step is for teachers to develop and improve their own critical skills before anything else can be done, the first two selections are books designed to do just that.

Beardsley, Monroe C., Thinking Straight, Principles of Reasoning for Readers and Writers; 4th Edition, Prentice-Hall, Inc., Englewood Cliffs, New Jersey. Discusses several of the most important skills, eg., deduction, definition, use of language. Explains what is involved in each of these skills. Includes worked-out examples; also many examples for practice. Written at level so that one can read most of book without assistance.

Kahane, Howard, Logic and Contemporary Rhetoric, The Use of Reason in Everyday Life; Wadsworth Publishing Co. Inc., Belmont, California. Discusses the common fallacies which occur in everyday language. Focusses especially on political speeches and advertising. Also discusses use of statistics, media manipulation of candidates, managing the news, and textbooks and indoctrination. Also requires no advance expertise.

The following are pieces about reasoning and critical thinking in general, or about specific features involved in the teaching of these skills.

Aylesworth, Thomas G., Gerald M. Reagan, Teaching For Thinking, Doubleday and Co., Inc., Garden City, N.Y. An excellent book that discusses several important issues: reading and thinking, critical thinking and value judgments, critical thinking and settlement of disputes, critical thinking and language, alternatives of methodology. A unique feature is inclusion of numerous real-life dialogues (exchanges) between teacher and student with analysis of how such dialogues could be used to enhance development of critical thirking.

D'Angelo, Edward, The Teaching of Critical Thinking, B. R. Gruner N. V. Amsterdam. Discusses the nature of critical thinking and the particular skills which fall under critical thinking. An excellent feature is discussion of particular, concrete suggestions for classroom activities which can be used to encourage critical thinking in different subject areas, eg., language arts, social studies, reading, etc. Extensive bibliography.

D'Angelo, Edward, "The Teaching of Critical Thinking Through Literature," unpublished manuscript. (Department of Philosophy, University of Bridgeport, Bridgeport, Conn.) Discusses critical thinking relative to reading, especially literature. Takes two well-known pieces of children's literature and shows in detail how they could be used to develop critical thinking skills.

Evans, Clyde H., "Facing Up to Values," Teacher, December, '74. Discusses procedural and substantive features--complete with rational for each--of typical classroom discussion designed to enhance development of critical thinking skills. Emphasis here is on discussion of value-related issues.

Passmore, J., "On Teaching to be Critical," Education and the Development of Reason, Dearden, Hirst, Peters, ed. Discusses how teaching to be critical differs from teaching other skills or other subject matter. Also discusses what kinds of demands such teaching places upon the teachers themselves. (Publishers: Routledge and Kegan Paul, London)

Peltier, Gary, Charles Bartl, "Using Classroom Tests to Promote Critical Thinking," Clearinghouse, 48:476-9, April '68. Discusses ways in which tests, examinations, grades, classroom practice, study habits can be utilized to stimulate development of critical thinking abilities.

Skinner, Ballou, "The Myth of Teaching for Critical Thinking," Clearinghouse, 45:372-6, February '71. Discusses why, even though teachers profess the importance of teaching critical thinking, in fact they very rarely follow through with this objective.

"Special Symposium on Thinking and Learning," Today's Education, 64:42-51, March, '75. Topics discussed: the way in which each culture has its own distinctive cognitive system and how this affects how we think about things; some misunderstandings about how children learn; on the school's reputed destruction of the child's "love for learning;" the role of intuition in learning.

The following two selections are excellent sources for ideas in writing and compiling critical thinking tests.

National Council for Social Studies, 35th Yearbook, Evaluation in Social Studies, Washington, N.E.A., 1965.

Bloom, Benjamin S., editor, Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. David McKay Co., Inc., N.Y., 1961.

The following are materials which either deal directly with critical thinking, or which help to create situations conducive to the learning of these skills.

Critical Thinking Aids, Modern Learning Aids, New York. A series of sound filmstrips dealing with decisions in American History.

First Things, Guidance Associates, Pleasantville, N.Y. A series of sound filmstrips for the elementary grades which deal with ethical issues like telling the truth, keeping promises, breaking the rules, and others. Each filmstrip ends with an unresolved dilemma.

Harry Stottlemeier's Discovery, Matthew Lipman, Institute for the Advancement of Philosophy for Children, Montclair State College, Upper Montclair, New Jersey. This is a novel written to raise certain fundamental philosophical issues and basic philosophical methods of reasoning. There is also a teacher's manual. This book is designed for 5th and 6th grades. Material for all grades K-8 is presently in preparation.

Society and Mankind, The Center for Humanities Inc. Two Holland Avenue, White Plains, N.Y. 10603. A new audiovisual program for human development and guidance, social studies, art and science for the high school level. Uses slides, tape cassettes, and records. (There is a limited version for middle school level). The breadth of topics covered is impressive indeed.

The Second Objective

Affect

There have been many definitions of the educated person. Henry P. Cole's profile of the ideal product of the educative process encompasses many of the characteristics often included in these definitions.

> He is a rational man skilled in reasoning and analytic thinking. He is a man who can love. He is compassionate and warm in his interpersonal relationships. He is sensitive, empathetic, non-ethnocentric. He is an independently motivated, life-long learner. He is a problem-seeker and solver. He is expressive and creative, both cognitively and affectively. He is flexible and fluent in his perceptions, ideas and feelings. He is curious and an inquirer. He is a coper rather than a defender, an active seeker rather than a passive accepter. (3, p.5)

If, for the purpose of studying what is attended to by education, we were to categorize the attributes listed by Cole according to Krathwohl, Bloom, and Masia's taxonomy (psychomotor, cognitive, and affective domains), many of these attributes would fall into the affective (feeling) domain which they define as:

> Behavior having to do with emotional or feeling responses to an object of experience (thing, idea, process, subject, situation, another person, oneself, etc.) and all the complex perceptions, attitudes, characteristics, and behaviors asoociated with seeking, accepting, and incorporating or avoiding and rejecting the object. (9, p.7)

And yet, unfortunately, education has primarily focused on cognitive development with only some attention to psychomotor development and with very little attention to the affective domain.

Functioning human beings are a complex interaction of all three domains and to de-emphasize or ignore one domain is to compromise or preclude what it is we can hope for as a result of the educational process.

Most school districts publish philosophies which reflect hopes of educating the whole person, but in practice, little attention is paid to the child's developing self-concept, his or her exercise

of choice, acceptance of self-discipline, practice of self-responsibility, or exploring of his or her limits and limitations. Perhaps it has always been assumed that the affective goals of education would be accomplished as an incidental consequence of learning to read, write, or do arithmetic. Or, perhaps, a judgment has been made by our technological society that "to think" is divorced from, and more valuable than, "to feel." Or, perhaps, it is more difficult to define affective processes, to develop teaching-learning strategies, and to evaluate outcomes in this area. Or perhaps, our awareness of the legitimacy and importance of the affective area has only recently been reawakened.

Telling evidence that affective education has been neglected is that school districts which currently attempt to deal with this area are labeled "innovative." These "innovative" programs are designed to combat the angry criticism of the writers of the 1960's who, like Charles Silberman in Crisis in the Classroom, called schools "grim, joyless places" where there is "mutilation of spontaneity, of joy in learning, of pleasure in creating, of sense of self." (19, p. 10). These programs, through attention to affective considerations, are attempting to deal with developing aesthetic appreciation, or preventing alienated adolescents, or making education relevant to the disadvantaged, or fighting the drug abuse problem.

These innovative programs in school districts, along with the efforts of several State Departments of Education and many, many individual classroom teachers and school administrators represent hopeful signs that affective learning eventually may be recognized as a vital and integral part of a child's educational development. These hopeful signs are also a reminder of the tremendous amount of work which needs to be done before we can see that elementary and secondary school teachers are, as a matter of course, designing learning experiences, implementing strategies, and evaluating in the affective area.

There is ample support in the literature of psychology, child development, personality theory, and creativity to support an emphasis on affective education--that is to attend to "desiring, willing, seeking, perceiving, doing, creating, evaluating, feeling aspects of behavior as well as with the more common academic activities." (25, p. 12).

Jean Piaget, renowned for his cognitive development theories, found that affective innovations parallel intellectual transformations. He considered affectivity the energetic force of behavior. "Affective life, like intellectual life, is a continual adaption and the two are not only parallel but inter-dependent, since feelings express the interest and value given to actions for which intelligence provides the structure." (5, p. 80).

Abraham Maslow, the pioneer in psychology whose theories are based on psychologically healthy individuals, believed that most individuals are capable of ongoing actualization of potentials, capabilities, and talents. This ongoing process demands increasing knowledge and acceptance by the individual of his or her own intrinsic nature. (11, p. 23).

> Ultimately the person, even the child, must choose for himself. Nobody can choose for him too often, for this itself enfeebles him, cutting short his self trust, and confusing his ability to perceive his own internal delight in the experience, his own impulses, judgments, and feelings, and to differentiate them from the interiorized standards of others. (11, p. 47).

Rollo May, psychiatrist and psychologist, tells us that the purpose of education for the individual is to acquire some knowledge and inner strength so that as he begins to choose and decide, he has some capability for it. May emphasizes that childhood is the time to find selfhood. (12).

Arthur W. Combs also stresses the importance of knowledge about oneself. He concludes that people "who see themselves as liked, wanted, acceptable, worthy, and able...usually get along fine in our culture and make important contributions both to themselves and to the societies in which they live." (4, pp. 51-52). In discussing the importance of knowing one's own values, beliefs, and personal meanings relative to learning, Combs writes:

> We are beginning to see that unless behavior has changed, one has really not learned. It is becoming more and more clear that one key to effective behavioral change is an individual's personal discovery of meaning. It is values, beliefs, and personal meanings which affect behavior most markedly. People without beliefs, values, and convictions cannot be counted upon in a society whose very survival depends on active, responsible and trustworthy people. (4, p. 999).

Carl Rogers who has applied his counseling theories to education believes that the child will learn rapidly when learning experiences incorporate affective as well as cognitive considerations.

> Let me define a bit more precisely the elements which are involved in such significant or experiential learning. It has a quality of personal involvement--

> the whole person in both his feeling and cognitive aspects being in the learning event. It is self-initiated. Even when the impetus or stimulus comes from the outside, the sense of discovery, of reaching out, of grasping and comprehending, comes from within. It is pervasive. It makes a difference in the behavior, the attitudes, perhaps even the personality of the learner. It is evaluated by the learner. He knows whether it is meeting his need, whether it leads toward what he wants to know, or whether it illuminates the dark area of ignorance he is experiencing. The locus of evaluation, we might say, resides definitely in the learner. Its essence is meaning. When such learning takes place, the element of meaning to the learner is built into the whole experience. (17, p. 5)

The literature not only gives us a rationale which is supportive of affective educational goals, but also a description of qualities of the "healthy," "self-actualizing," "mature," or "creative" person. Albert R. Wight has attempted a composite picture of this person based on the works of Abraham Maslow in Toward a Psychology of Being, Gordon Allport in Pattern and Growth in Personality, Carl Rogers in Freedom to Learn, and E. Paul Torrance reporting systems by Tyson, Jahoda, and Tindall in Constructive Behavior: Stress, Personality, and Mental Health.

Wight's description is as follows:

> Curious, inquiring mind, never bored.
> Adventurous, resourceful, willing to take a chance.
> Flexible, adaptable, versatile.
> Open-minded, receptive to others' ideas.
> Tolerant of ambiguity.
> Attracted to disorder, preference for complexity.
> Willing to suspend judgment. Resists premature closure but strong need for ultimate closure.
> Becomes preoccupied with a problem.
> Need for mastery of a problem.
> Attempts difficult jobs, with persistence, drive, determination, diligence, perseverance.
> Thorough.
> Motivated, industrious, energetic, aesthetic and moral commitment to his work.
> Desires to excel.
> Self-starter, self-sufficient, self-confident.
> Individualistic and self-assertive.
> Non-conforming, doesn't fear being different.
> Attitude of constructive discontent.

Questioning attitude toward sources of information.
Not subservient to authority.
Independent in thinking, likes to think; speculative.
Creative imagination.
Likes sclitude; likes to work alone.
Self-aware; self-accepting; more open to the irrational in himself.
Emotionally sensitive.
Intuitive, visionary.
Breadth of interest.
Appreciates beauty.
Sincere.
Sense of humor.
Strives for distant goals.
Need for variety; dislike of sterile or monotonous routine.
Aware of others.
Shuns power.
Spirited in disagreement
Constructive in criticism.
Positive attitude; not hostile or negativistic.
Deep and conscientious convictions; differentiated value hierarchy.
Sense of destiny. (25, pp. 71-72).

The literature does not provide us with a "how to do it" or cookbook approach for developing these "self-actualizing," "mature," "creative," or "healthy" people. There are, however, some characteristics of the learning environment which seem to emerge.

1. There is attention to experiential learning--that is engaging the child whenever possible in an active way in his or her own learnings so that he or she has first hand, personal data with a concept on which he or she can focus his or her perceptions, personal meanings and insights. He or she can reflect, discuss, analyze and evaluate the experience from his or her own point of view of the world and can share those perceptions, meanings, and insights with his or her peers and the teacher.
2. Students are actively involved in setting learning objectives and in defining criteria against which the learning experience will be evaluated.
3. Students participate in evaluating their own learning.
4. The learner is actively encouraged to synthesize his new learning with what he already knows about himself, other people, the world, a subject or other academic discipline areas.
5. Emphasis is placed on internal versus external controls so that the child develops responsibility for his or her own learning, decisions, and behavior.

6. Children have ample opportunities for practice in decision-making processes, creative problem-solving, testing their personal abilities and talents, responsibility-taking, self-evaluation and goal setting.

Project SEARCH is one effort to deal with affective education. Affect is used here in Webster's psychological definition: "feeling, emotion, and desire, with an implication of their importance in determining thought and conduct," and in Krathwohl's, Bloom's and Masia's educational definition above. Objects of affect are the self, others, society, learning, work, leisure time, aesthetics, the natural world, and life. (26, p. 13).

The unique definition given to the affective processes by Project SEARCH is in terms of considering the affective area as an integrative base for the development of the whole person. It is, in this affective domain, that explicit, conscious attention can be given to the child as he or she creates a world of meaning, learns to base choices on his or her own values, beliefs, knowledge, and needs, and exercises his or her growing talents and abilities.

Affective learning is only one of four objectives of Project SEARCH. Each objective is supportive and enhancing of the others hoping to provide humanistic education for children in elementary and secondary schools. Following, are some examples of how affective processes relate to the other three SEARCH goals: 1) interdisciplinary approaches; 2) reasoning, and 3) values inquiry.

Interdisciplinary approaches mean that the student must relate at least two disciplines or two processes in understanding concepts or must apply one general concept to more than one subject. This goal is ensured in a child's perspective relative to all learning if she or he is skilled in sythesizing meanings.

Reasoning skills such as comprehension, interpretation, use of deduction, induction, and synthesis can be enhanced as a child assigns meaning to these processes and to the data that will be processed. A child's decisions which are based on his needs, interests, beliefs, knowledge and values occur through his or her exercise of reasoning skills. The development or actualization of reasoning skills is one way in which the individual maximizes his potency in the world.

It is probably the valuing process which best highlights the interaction of all four SEARCH objectives. The six steps in the valuing process assume skills in each of the other three areas:

Recognition of the need for choice
Identification of alternatives
Analysis of alternatives in the light of possible consequences

Free choice among the alternatives
Translation of the choice into behavior
Re-evaluation of the choice in light of new experience

Some affective processes which are imperative at every step of the valuing process are self-knowledge, self-responsibility, inclination towards choice making, ability to generate possible alternatives, acting on one's beliefs and decisions, and openness to new information.

The following is a list of skills subsumed in the affective domain. It is by no means exhaustive:

observing
listening
speaking
reading
writing
investigating
analyzing
awareness of self, others, nature, life
openness
risk-taking
valuing
decision-making
problem solving
interpersonal effectiveness
aesthetic appreciation and expression
information seeking
synthesizing
evaluation
reflection
coping with change
goal-setting
empathy
self-discipline

As has been pointed out earlier, affective goals should be integral to all learning experiences. If we hope to maximize the child's total development, teachers must create an environment which fosters affective growth. They must explicitly plan activities which are aimed at achieving objectives in the affective domain as well as in the cognitive and psychomotor domains. Whenever possible, activities should be chosen because they attend to goals in all three domains.

There are many helpful books (3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 25, 26) which provide a foundation for the teacher's understanding of the affective domain. There are also books (1, 2, 6, 7, 10, 14, 16, 20, 21, 23, 24) which describe helpful activities, techniques and exercises for use with children in the classroom. These resources are invaluable guides for teachers as they engage children in learning experiences. What must be stressed is the importance of teacher planning within a framework which attends to affective goals. Isolated "affective exercises" performed outside of an integrated context are affective "non-sense" experiences and are not helpful to children as they create their worlds of meaning.

A word should be said here about classroom materials (films, books, media kits, slides, and filmstrips) which are designed to facilitate affective learning. There are a multitude of materials, appropriate for elementary and secondary students, which deal in content with self-concept, creativity, emotions, problem-solving, and interpersonal relations. These may or may not be useful in actually facilitating affective goals, depending entirely on how they are used with and by the students.

On the other hand, there are many materials which are not related in topic or designed purpose to affective goals but which can be used very effectively to facilitate these goals. Again, it depends on how they are used with and by the students. For the teacher who is a novice in designing strategies in the affective area, it might be wise to use familiar materials in new ways rather than investing in new materials and using them in old ways.

Selected Bibliography

1. Bessell, Harold and Palomares, Uvaldo. Human Development Program, El Cajon, California. Human Development Training Institute. 1972. This excellent series of manuals for classroom teachers provides step-by-step experiences for children (Pre-Kindergarten through sixth grade) in three areas: awareness, mastery, and social interaction. The manuals are organized in whole year, unit, weekly and daily planning cycles so to be of maximum use to busy teachers.

2. Brown, George Isaac. Human Teaching for Human Learning. New York. The Viking Press. 1971. Brown presents his approach to confluent education--working for feeling and intellectual goals. He draws on development in modern dance, contemporary theatre, physical education, Eastern religions, new group therapies and creativity training in designing techniques for classrooms. Examples are given for many content areas as well as age levels.

3. Cole, Henry P. Process Education: The New Direction for Elementary-Secondary Schools. Englewood Cliffs, New Jersey. Educational Technology Publications. 1972.

4. Combs, Arthur W. Perceiving, Behaving, Becoming, Washington, D.C. Association for Supervision and Curriculum Development. 1962. This yearbook of the Association for Supervision and Curriculum Development deals with the development of truly adequate, fully functioning, and self-actualizing people. Earl C. Kelley, Carl R. Rogers, A.H. Maslow, and Arthur Combs are contributors.

5. Flavell, J.H. The Development Psychology of Jean Piaget. New York. Van Nostrand Reinhold Company. 1963. Flavell presents an integration of Piaget's thoughts and work. The forward is written by Piaget.

6. Gordon, Thomas. P.E.T. Parent Effectiveness Training. New York. Peter H. Wyden, Inc. 1974. Gordon presents a model for communication and problem solving for parents to use with their children. The techniques described are highly applicable for teacher-student communication.

7. Gorman, Alfred H. Teachers and Learners: The Interactive Process in Education. Boston: Allyn and Bacon. 1969. This book emphasizes classroom applications of human communications theory.

8. Joyce, Bruce and Weil, Marsha. Models of Teaching. Englewood Cliffs, New Jersey: Prentice Hall Inc. 1972. Joyce and Weil review approaches to teaching including those which are based on concepts of creativity, psychological processes and awareness training.

9. Krathwohl, David R.; Bloom, Benjamin S., and Masia, Bertram B. Taxonomy of Educational Objectives Handbook II: Affective Domain, New York: David McKay Company, Inc. 1964. The taxonomy describes the nature of the affective domain, the classification structure, the relationship of the affective domain to the cognitive domain, and how the affective domain structure can be used to classify both areas.

10. Lyon, Harold C. Learning to Feel--Feeling to Learn. Columbus, Ohio: Charles Merrill. 1971. Lyon gives a survey of the people, places and ideas in the field of affective education. There are valuable classroom activities and techniques included.

11. Maslow, Abraham. Toward a Psychology of Being. Princeton, New Jersey: D. Van Nostrand Company, Inc. 1962. Maslow, in this important work, uses studies of psychologically healthy people and their experiences to demonstrate that human beings can be loving, noble, and creative and that they are capable of pursuing the highest values and aspirations.

12. May, Rollo. Man's Search for Himself. New York: Signet Books. 1967. In this important work May examines man's search for a center of strength with which to conquer the insecurities of this troubled age.

13. Moustakas, Clark. Creativity and Conformity. New York. D. Van Nostrand Company. 1967. This work presents a meaningful understanding of creativity, self-growth and self-renewal and how significant gains in awareness and knowledge arise from within the self and not from external sources. He discusses the consequences of widespread conformity in terms of precluding individuality and creativity.

14. Moustakas, Clark. The Authentic Teachers. Cambridge, Massachusetts. Howard A. Doyle Printing Company. 1971. This book focuses on sources of health which contribute to the evolution of genuine self-hood and authentic relatedness. Freedom, choice, the capacity to choose and responsibility are among the concepts explored. Classroom examples are given for kindergarten through high school.

15. O'Neill, William F. "Existentialism and Education for Moral Choice." Phi Delta Kappan. Vol. XLVI, No. 2, October 1964. O'Neill describes the role of education in terms of moral choices and processes of choice making based on existential philosophical concepts.

16. Raths, Louis E., Harmin, Merrill, and Simon, Sidney B. Values in Teaching. Columbus: Charles E. Merrill. 1966. The authors outline a theory of values and defines the valuing process. It contains many classroom activities.

17. Rogers, Carl R. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Publishing Company. 1969. Rogers had developed a flexible model of teaching which emphasizes an environment which encourages students to create their own environments for learning.

18. Rubin, Louis J. Facts and Feelings in the Classroom. New York: Walker and Company. 1973. This book presents views on the role of the emotions in successful learning by Bloom, Eisner, Jones, Maslow and others.

19. Silberman, Charles E. Crisis in the Classroom. New York: Random House. 1970. Silberman diagnoses the ills of our schools and makes recommendations for them in order to create and maintain a humane society.

20. Simon, Sidney B., Howe, Leland W., and Kirschenbaum, Howard. Values Clarification: A Handbook of Practical Strategies for Teachers and Students. 1972. This book contains a wealth of techniques for classroom use with suggestions for the way the techniques can be used.

21. Stevens, John O. Awareness. Moab, Utah: Real People Press. 1971. One hundred exercises, most of which are appropriate for the classroom, are drawn from Gestalt awareness training.

22. Torrance, E. Paul. Education and the Creative Potential. Minneapolis: The University of Minnesota Press. 1967. Torrance defines the conditions for creative learning and thinking. He discusses the relationship of creativity to self-esteem, self-insight and self-direction.

23. Torrance, E. Paul. Encouraging Creativity in the Classroom. Dubuque, Iowa: William C. Brown Company, Publishers. 1970. In this work, Torrance gives a tentative hierarchy of creative skills. He illustrates the application of his concepts of creative development with good classroom examples.

24. Weinstein, Gerald and Fantini, Mario. (Ed.) Toward Humanistic Education. New York: Praeger Publishers. 1970. This book outlines a model for curriculum and instruction based on pupil concerns and feelings rather than on purely cognitive goals. Ideas for classroom activities are included.

25. Wight, Albert R. Affective Goals of Education. Salt Lake City, Utah: Interstate Educational Resources Service Center. 1971. Wight describes the goals and objectives of affective education. He draws on the leading writers in this area, and his work is a valuable resource for teachers and administrators in designing their own affective goals and objectives.

26. Wight, Albert R. Toward a Definition of Affect in Education. Salt Lake City, Utah: Interstate Educational Resource Center. 1972. Wight suggests a model for expansion of educational objectives which includes attention to affective objectives.

The Third Objective

Interdisciplinary Approaches

The Case for Interdisciplinary Approaches

We're "thinking the world to pieces!" This is the graphic way in which Noel McInnis (p. 1) characterizes the problem of fragmentation in education. (See bibliography for references.) The "knowledge explosion" of the present century had led to more and more separation, specialization, and compartmentalization of subject matter. Although these developments undoubtedly have produced some desirable results, especially technological achievements, they also have had some unhappy consequences. Thus, in our schools, knowledge has often been separated into artificial cubicles with no apparent relation to each other. Students, faced with a seemingly unrelated smorgasbord of courses, have had difficulty integrating their view of themselves and the world. Thus, Bernard Miller (p. 23) laments:

> the compartmentalization of subjects has imposed rigid restraints which have left students with no sense of unity or personal relationship to the school curriculum, and to life outside the school.

Frequently the result has been a sense of meaninglessness and confusion, and a feeling that school is "irrelevant."

What is needed, of course, is not the abolition of specialized disciplines, but rather the development of ways to integrate and interrelate them--to weave them together meaningfully and comprehensively--to place them into wholistic perspectives. To quote John Goodlad's article "Elementary Education" (pp. 113-4):

> The school curriculum should be planned to reveal continuing threads--ideas, generalizations, principles, concepts, methods--by means of which specific learnings might be related effectively one to another.

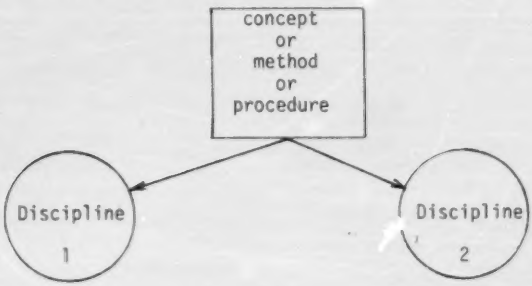
The real world does not come packaged according to disciplines. "Real life is 'interdisciplinary.' People use a succession of different kinds of knowledge and different skills as a means of solving their problems." (Kermoade, p.3). Thus, to help restore meaning, usefulness and value to learning--to help humanize education--we must make it more interdisciplinary.

The Meaning of the Term "Interdisciplinary"

The term "interdisciplinary" is widely used today with a variety of meanings and interpretations. It is sometimes taken to be interchangeable with words such as "cross-disciplinary," "multi-disciplinary," "polydisciplinary," "transdisciplinary," "non-disciplinary," "non-departmentalized," "integrated," and so forth. But, although some educators consider all of these terms to have essentially the same meaning, others attempt to draw important distinctions among them. It is important and necessary, therefore, to state more precisely what "interdisciplinary" means for Project SEARCH.

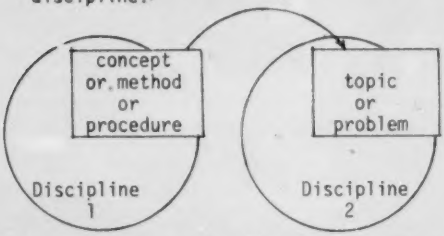
Simply put, an "interdisciplinary approach" to learning combines or interrelates aspects of at least two academic disciplines or subject areas such as art, mathematics, English, biology, music, history, philosophy, and so on. This combining or interrelating normally is achieved in one or more of the following ways:

1. By applying the same concept, method, or procedure to the subject matter of more than one discipline.



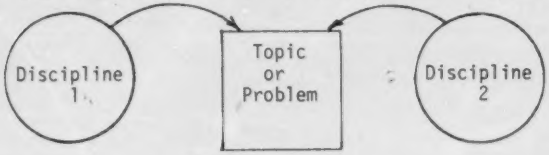
Thus, for example, one could investigate the role of the concept of change in a number of different disciplines. Chemical change is a key idea in chemistry, and change is central to the biological notion of evolution. History can be viewed as a record and an interpretation of social, political, economic changes and so on: music can be analyzed as structured changes in sound and silence; and change is an important ingredient in artistic creation and innovation.

2. By applying a concept, method or procedure from one discipline to a topic or problem in a different discipline.



For example, ideas from chemistry such as "atom" and "molecule" can be used in English composition to analyze paragraphs and sentence structure. In chemistry, individual atoms combine in accordance with certain rules and principles to form larger, more complex units such as molecules and crystals. Similarly, in grammar individual words can be considered "atoms" of meaning which combine in accordance with certain rules and principles to form larger units such as sentences and paragraphs. The analogy can be pushed quite far with fruitful results. Thus, just as a few chemical elements can be combined to make a variety of compounds, so a handful of words can be arranged in various ways to create a number of different sentences. Also, diagrams of chemical structure and those of grammatical structure have much in common.

3. By applying the concepts, methods and procedures of more than one discipline to the same problem or topic.



For example, a class might focus for a term upon the problem of pollution and bring the various ideas and procedures of a number of disciplines to bear upon it. They might study the physical, chemical, and biological impact of pollution upon the environment and ways in which the physical sciences could help reverse that impact. They could study historical events and trends that led to present conditions of pollution, bringing in geographic, climatic, economic, psychological, sociological, political, moral and esthetic considerations. They might read editorials, essays,

poetry and fiction on pollution; write essays and poems of their own; create posters and leaflets; run recycling projects, take field trips, perform music and plays--all with regard to pollution and environmental issues.

Interdisciplinary Strategies

The account of interdisciplinary approaches given here is compatible with virtually any kind of teaching-learning situation--a traditional one-teacher classroom, an open classroom with team-teaching, formal programs in large halls, informal discussion groups, student-managed projects, simulation games, and so on. Thus, learning can be interdisciplinary without being restricted by a limited range of methods or settings.

It is possible, however, to find specific attitudes and procedures which are often adopted in an effort to facilitate interdisciplinary learning. One might call these "interdisciplinary strategies;" and some of the more common ones are the following:

1. Adopting an interdisciplinary attitude - By remaining constantly alert to interdisciplinary connections, by actively seeking and using them whenever they seem to be helpful, a teacher can make any subject more meaningful to the student and easier to integrate and internalize. For example, while dealing with French vocabulary and grammar, one could relate it to French history, art, and music; or to the achievements of French scientists and mathematicians; or indeed to French fashion and cooking. In this way, the student may come to view not only French, but any language, as a living, changing, human institution, rather than mere words and rules.

2. Inviting guest teachers or people from the community - Guests from other disciplines or the community can often provide perspectives and know-how which the teacher and students may not have. Thus, in an art class, a chemist might explain the art-related chemistry of clay, paints, plastics and other materials; a physicist could guide the students through some experiments in optics and other physical principles which make the visual arts possible; a philosopher could expound upon the wonders of esthetics; and an historian could demonstrate by example how a work of art can often serve as a mirror of the era in which it was created.

3. Coordinating the subject matter of two or more courses - The topics covered in two or more courses could be coordinated so that they reinforce and complement each other. This would make it easier for the students to develop a more integrated and wholistic understanding of themselves and the world. For example, while the

American Civil War is being covered in a history course, the English course could include novels, essays, poems on the Civil War, and students could be writing papers on the subject. At the same time, the music class could deal with war-related ballads and folk songs; and the humanities course could include philosophical discussions of war and violence.

4. "Fusing" two or more courses into a new integrated unit - By combining the subject matter of two or more previous courses--fusing and weaving them into one--a new, interdisciplinary, more wholistic course or curriculum can be created. Thus, there is a trend in high schools today to combine English, history, art, music, philosophy, and so on into a single integrated humanities unit.

5. Building the curriculum around a common theme - Rather than structuring the curriculum with courses in specific disciplines, a growing number of schools are developing programs focused upon a central theme. Students and teachers in such programs are free to draw upon the ideas, procedures, and perspectives of any discipline that proves to be helpful in dealing with the theme. The focus may be upon social issues such as war and peace, law and order, ecology and the environment--or upon questions such as "Who am I and where am I going?" or "What is the meaning of life?"--or upon "powerful ideas" such as love, change, reason, or justice.

Relation to Values Inquiry

In Chapter 1 above, it is pointed out that, in Project SEARCH, "the objectives on reasoning, affect and interdisciplinary learning are seen as supporting the process approach taken in the values objective." It might be helpful at this point, therefore, to indicate how interdisciplinary learning relates to the various steps in the values inquiry process. (For a detailed discussion of that process, see Chapter V below.) We shall see that interdisciplinary learning and thinking can be an asset in each of the six values-inquiry steps.

Let us consider as an example case a young artist who is creating an oil painting:

Step 1 - Recognizing the need for (or the possibility of) choice: Our artist wants to create an unusual visual effect in his painting, bur commercially available paints cannot give him the effect he wants. He suddenly remembers the chemist who came to class and explained some of the chemistry of art materials; and he now sees a choice he might not otherwise have realized--he could alter the paint chemically to get the texture and appearance he needs.

Step 2 - Identifying various alternatives: By combining his knowledge of chemistry and the library research skills he acquired from his English term paper project, the artist works out several possible ways to produce the special texture that he wants. Without combining his chemical knowledge with his library skills, he would not be aware of these alternatives.

Step 3 - Analyzing the possible consequences of each alternative: Although each alternative paint mixture would produce the desired texture, some of them would require costly ingredients, others would be very difficult to synthesize, still others would take months to dry, and finally others would fade or crumble rather soon after drying. Our artist uses his knowledge of chemistry, his skills in mathematical calculation, and some advice from a local paint expert to determine the likely cost, difficulty of synthesis, drying time and durability of each alternative mixture.

Step 4 - Choosing the alternative that seems best: Thus, by combining knowledge and skills of various kinds, the artist is able to come up with a paint which 1) is not too expensive, 2) can easily be synthesized, 3) dries relatively quickly, 4) is reasonably durable, and 5) produces the special texture he wants.

Step 5 - Carrying out the choice: Once he has chosen the mixture he wants, the artist must employ mathematics in measuring and calculating; chemistry in synthesizing; esthetic judgment in determining whether he has the needed texture; and so on.

Step 6 - Reevaluating the choice on the basis of new experience: After the painting is finished, and the artist discovers things about his special paint that he hadn't thought about before, he can rethink again the various alternatives that were open to him, perhaps see advantages and disadvantages he hadn't seen before, and so forth.

In summary, then, as this example indicates, interdisciplinary learning and thinking is a valuable complement to the values inquiry process. It can 1) reveal a choice or a problem that might otherwise be missed; 2) suggest alternatives that could have been overlooked; 3) indicate consequences that could go unnoticed; 4) help determine the best available alternative; 5) help carry out the choice that eventually gets made, and finally; 6) help reevaluate the choice after it has been accomplished.

Selected Bibliography

The literature on interdisciplinary approaches is enormous; but most items are very narrow, dealing either with a specific project in a single school or classroom, or with a fine point of theory. The present bibliography, however, is an effort to select some of the most general background readings, plus the richest and most practical "how-to-do-it" manuals. The final section lists a few representative descriptions of particular projects.

General Background and Theory

Burchell, Helen R., "On Interdisciplinary Education." High School Journal, vol. 55 (1971-72), pp. 78-85. Presents a brief rationale for interdisciplinary education; sketches four sample programs from various schools across the country; briefly describes three kinds of thematic approach to interdisciplinary education.

Goodlad, John I., "Directions of Curriculum Change." NEA Journal, vol. 55 (December 1966), pp. 33-37. A general discussion of curriculum trends during the latter half of the twentieth century. Describes "three cycles of curriculum development"--the Discipline-Centered Curriculum, which is now being replaced by the Total Curriculum, which in turn will be succeeded by the Humanistic Curriculum.

Goodlad, John I., "Elementary Education" in Robert Ulich (ed.), Education and the Idea of Mankind. Harcourt, Brace and World; New York. 1964, pp. 97-119. The author suggests a number of ways to humanize education in the elementary school, including the introduction of interdisciplinary approaches.

Henry, Nelson B. (ed.), The Integration of Educational Experiences, National Society for the Study of Education; Chicago. 1958, 263 pp. A rich and detailed presentation, from the late 1950's, of the educational theory, philosophy, and psychology which helped to launch the current movement toward humanistic, interdisciplinary education.

Keller, Charles R., "The Wave of the Present." The English Journal, vol. 54 (1965), pp. 171-74 and 184. The author, who has often been called "Mr. Humanities," presents a rationale for the humanistic approach to education. He describes interdisciplinary humanities courses and advocates their introduction into high schools throughout the country.

Kermoade, Arthur L. The Interdisciplinary Approach and Its Comparative Effectiveness. Washington University, Seattle, Washington. 1972. 33 pp. (ERIC Document no. ED 064 238). Presents a rationale for interdisciplinary approaches. Summarizes the results of twenty-five dissertation research projects on interdisciplinary education. Concludes that students in interdisciplinary programs have a higher self-image, are more motivated, and are better at solving problems than those in non-interdisciplinary programs.

McInnis, Noel F., "Teach the Earth Whole," Center for Curriculum Design, Evanston, Illinois. 1971. 7 pp. (ERIC Document no. ED 055 021). The author claims that students are currently learning to "think the world to pieces," and he suggests that we need "a curriculum for teaching the earth whole." He describes three interdisciplinary projects which lead in that direction.

Practical How-to-do-it Manuals

Miller, Bernard S. The Humanities Approach to the Modern Secondary School Curriculum. Center for Applied Research in Education, New York, N.Y. 1972. 210 pp. Provides interdisciplinary humanistic curriculum models plus helpful suggestions of all kinds with regard to materials, classroom arrangements, faculty preparation, administration, evaluation and so on.

Pumerantz, Philip and Ralph W. Galano. Establishing Interdisciplinary Programs in the Middle School. Parker Publishing Co., West Nyack, N.Y. 1972. 214 pp. A rich and useful book which does for the middle school what Miller's book (see above) achieves for the high school.

Vars, Gordon F. (ed.) Common Learnings: Core and Interdisciplinary Team Approaches. International Textbook Co., Scranton, Pa., 1969. 306 pp. Provides rationale, theory, curriculum models, and practical suggestions for interdisciplinary team-teaching in junior and senior high school.

Descriptions of Particular Programs

Curriculum Research and Development in the Humanities and Social Studies. Schools Council, London, England. 1972. 4 pp. (ERIC Document no. ED 067 360). For those interested in programs in Great Britain, describes nineteen interdisciplinary team-teaching projects in England. Provides useful references for further reading and materials.

Marashio, Paul, "Moving Toward a New Direction," Clearing House, vol. 46 (1971), pp. 252-3. Describes a school-wide interdisciplinary program focused upon the themes "Peace and War," "Future," and "Ecology." Involves simulation games, team-teaching, student-run projects, and so on.

Mohr, Nancy, "Teaching with Art," The Independent School Bulletin, vol. 31 (December 1971), pp. 49-51. Humanistic interdisciplinary teaching at its best! This prize-winning article describes an elementary school "happening" that successfully integrated art, science, music, English, mathematics, history, people from the community, neighboring schools, and so forth.

Purcell, Edna Jean, Interdisciplinary Arts and Humanities Programs and Cultural Centers for Elementary Schools, Title III, U. S. Office of Education, Washington, D. C., 1969, 272 pp. (ERIC Document no. ED 033 124). Describes and analyzes fifty-three interdisciplinary arts and humanities programs in elementary schools across the country. Provides guidelines for planning and maintaining such a program.

Watford, Robert and others, Project RIDE: Probe, Research, Inquire, Discover, Evaluate, 1973, 4 pp. (ERIC Document no. ED 084 198) Describes an interdisciplinary eleventh-grade American Studies program which combines music, literature, art, architecture, photography, history and social sciences.

The Fourth Objective

Values Inquiry

Background

The designers of the objectives of Project SEARCH - the representatives of the project schools, the Boards of Cooperative Educational Services and The University of the State of New York - were highly conscious of the need to include values education as an important component of the overall goal to humanize the educative process. During the planning year--1971 to 1972--drug addiction among students, school drop-outs, disaffection for the Vietnam war, and a host of other social problems were uppermost in everyone's mind.

In searching for answers to such problems educators are required to examine the ways in which schools are dealing with the effects of these issues upon the thinking and behavior of students and, indeed, to raise questions about the goals of education itself.

The planners of SEARCH were in total agreement that a balance be obtained between the conventional goals which aimed predominantly at vocations and the emergent goals which include developing skills and knowledge to equip one to live in and cope with the current society. At base, such a perception of the goals of education are, in the words of Benjamin N. Sachs, "Self-worth: the realization by every individual in our schools--students, teachers and administrators--that he has dignity because he exists. Respect for Others: the realization that each person in our schools must recognize the dignity of others because they exist. The Love of Learning: the recognition that men are men because of their deep emotional commitments to learning--the process by which men move closer to universal understanding."[1]

It will be recognized that these goal statements are in themselves values in that they constitute a motivating force, a selecting factor, an appraising concept which enables one to make choices from alternative paths of action. Values are decisive agents by which one determines his or her actions and are criteria by which he or she judges the consequences of an act.

[1]Sachs, Benjamin N., "The Goals of Education," Educational Administration - A Behavioral Approach, Houghton-Mifflin Co., Boston, 1966.

In accepting such goals/values schools are then set upon a path which will free students from rigid, habitual, or biased modes of thought; will motivate them to study a wider spectrum of knowledge and experience; and will enlarge their humanistic qualities, that is, their enlightenment and their compassion

In the process of arriving at such conclusions for the project's objectives, the planners came to realize through their studies of values that this topic has had a long and varied history in America. In the earlier years--the 17th and 18th centuries--the church-related schools gave emphasis to spiritual as well as moral values. In the 19th and 20th centuries, with the developing separation of church and state and the increasing numbers of public schools, studies in values education concentrated on civic, moral and "work ethic" values.

Where public schools in the late 19th and early 20th centuries once served to meld different national groups to the ideals of American life, today many divergent values positions are held by groups of Americans. The public schools are seen again to serve as the proper site for providing youth with the skills needed to examine, through rational processes, the validity, or the lack thereof, of opposing positions. If our youth witness public behaviors on the part of others who act out of hypocrisy and cynicism, then the schools, parents and community must join together to aid in the development of wise choice-making. Such choices are made "with a consciousness of what is aimed at, the reasons why it is preferred, and the fitness of the means used."[2]

Ultimately, the planners came to realize that the values that men hold can be classified within other categories than the spiritual, moral and civic; and that these other categories paralleled the content of much of the school's curriculum. Paul W. Taylor[3] lists eight realms of value that are found in all civilized cultures. They derive out of "the major social institutions and activities which carry on the civilization of the culture." They include: "the moral, the aesthetic, the intellectual, the religious, the economic, the political, the legal, and the point of view of etiquette or custom."

The planners also came to realize that numerous researchers, psychologists, philosophers, and educators recently have undergone an upsurge of interest in and placed an emphasis on values. The

[2]Childs, John L., in Sourcebook in the Philosophy of Education, (rev. ed.), William H. Kilpatrick (ed.), MacMillan, New York, 1934.

[3]Taylor, Paul W., "Realms of Value" in Theories of Value and Problems of Education, Philip C. Smith (ed.), University of Illinois Press, Urbana, Illinois, 1970.

studies generally fall into one of several principal categories: 1) component factors of value structures; 2) measurement of values in certain populations; 3) factors leading to value formation and development; and 4) techniques for including value considerations in the classroom.

Of these, the third and fourth received particular attention. For educators, the two important factors leading to value formation are indoctrination and internalization. In the former, for example, societies have taught their young the need for survival skills; in the latter, the mature person establishes value positions after careful consideration, inquiry and responsible action. Classroom techniques take on aspects of either of the two formation factors.

The final judgment by the planners for the need to include values education in the project is expressed well by Theodore Brameld[4] "...the grim truth is that nothing less than the life of mankind as a whole is now in precarious balance. To reassert that values are education's most neglected problem is to insist... that we no longer have any genuine choice--no choice but to bring the nature and meaning of values out of the shadowy background and into the spotlight of sustained concern on every level of learning from kindergarten through the university."

Current Status of Values Inquiry

In dealing with the aforementioned needs for values inquiry, the project planners also relied upon the writings of Dewey, Hartshorne, May, Maslow, Rogers, Combs, and Raths, Harmin and Simon.

From these writers it was learned that values are developed, strengthened, or changed through one or more of the following processes: reflective thinking, cultural conditioning, association of something with love and approval, emotional experiences, satisfaction or thwarting of physiological drives, reward and punishment, and inculcation by authority.[5]

Recently, Superka[6] has developed a typology of values education approaches. This classification scheme serves a useful purpose in enabling one to identify the characteristics of any one of a multitude of various approaches.

[4]Brameld, Theodore, Education as Power, Holt, Rinehart and Winston, New York, 1965.

[5]Blackmon, C. Robert (ed.), "Values" in Selected Papers on Values, University of Southwestern Louisiana, Lafayette, Louisiana, August, 1968.

[6]Superka, Douglas, "Approaches to Values Education," Social Science Education Consortium Newsletter, #20, November, 1964.

The typology includes:

1. Evocation - to help students evince and express their values genuinely and spontaneously without thought or hesitation.

2. Inculcation - to instill certain desirable social or human values into students.

3. Awareness - to help students become aware of and identify their own values and those of others.

4. Moral Reasoning - to stimulate students into developing more complex patterns of moral reasoning. Kohlberg's theory of six stages of moral development is the usual framework.

5. Analysis - to help students in logical thinking and scientific investigation procedures in dealing with values issues.

6. Clarification - to help students use both rational thinking and emotional awareness to examine personal behavior patterns and clarify and actualize values.

7. Commitment - to engage in personal and social action in relation to their values.

8. Union - to help students to perceive themselves and act not as separate egos but as parts of a larger interrelated whole - the human race, the world, the cosmos.

The more recent literature tends to give emphasis to analytical (process-oriented) value theory as contrasted with literature which speaks for the inculcation of specific values. Since Project SEARCH participants had made a determination to apply process strategies to each of its objectives, our attention was directed to models that were based upon process steps. Among those examined were those of Raths, Harmin and Simon; the National Council for the Social Studies; and Terry Borton. More recently, we have become familiar with the work of Jack L. Nelson, Rodney Allen and Lawrence Kohlberg.

In general, it was found that the various models tended to give emphasis to either a highly cognitive or highly affective orientation. SEARCH planners determined to create a model that integrated the two domains. The need for this determination is supported by Piaget and Inhelder and reflects real-life observations of an individual's choice-making procedures.

NOTE: Page 37 offers a comparison of process steps of the various models.

The Project SEARCH Model

Project planners, therefore, designed for "the study of the alternative value commitments open to man in order to reveal the differences that an individuals' choices make upon himself and his fellows" a logical sequence of values inquiry process steps. They include:

1. recognition by an individual of the need to choose a direction for action (or of a possible choice) in a particular choice-making situation;

2. identification of alternative actions which are available to an individual in a situation which requires choice-making;

3. analysis through inquiry of each alternative in the light of its possible consequences upon one's self and one's fellows;

4. choosing the alternative which apeears to offer the wisest and most beneficial set of consequences;

5. putting the chosen alternative into practice;

6. reevaluating the action and its consequence each time in the light of new experience.

The process is an approach to values which is as practical for second graders as it is for high school students.. It has been carried out successfully at all levels between these poles. The underlying principle is that a person is the sum of his choices, both consciously and unconsciously. The process is totally fluid, as applicable to machine shop and athletic choices, as it is to social studies, or to everyday situations met in the home and community.

COMPARISON OF PROCESS STEPS FROM VARIOUS MODELS

← Rational -- Affective →

John Dewey	National Council for the Social Studies	Jack Nelson	Project SEARCH	R. Allen	Raths, Harmin, Simon	T. Borton
1. Identify the problem or the indeterminate situation.	1. Identifying and clarifying the value question.	1. Indentifying and defining issues.	1. Recognition by an individual of the need to choose a direction for action in a particular choice-making situation.	1. Comprehension/ Clarification	Choosing 1) freely	1. Sensing- what? any experience that gets students talking about a concern of theirs and increasing their awareness of their feeling, to "what's out there."
2. By analysis and observation, gather data to formulate difficulty or define the problem.	2. Assembling (gathering and organizing) purported facts.	2. Hypothesis development.	2. Identification of alternative actions which are available to an individual in the situation.	2. Stating the issue	2) from alternatives	
3. Suggest solutions or hypotheses as to how to solve the problem	3. Assessing the truth of purported facts.	3. Evidence gathering and evaluation for accuracy, verifiability, bias, relevance, consistency, authority.	3. Analysis through inquiry of each alternative in the light of its possible consequences upon one's self and one's fellows.	3. Empathy	3) after thoughtful consideration of the consequences of each alternative	
4. By deductive elaboration, implication of the various hypotheses are generated.	4. Clarifying the relevance of facts.	4. Hypothesis testing for validity, consistency significance.	4. Choosing the alternative which appears to offer the wisest and most beneficial set of consequences.	4. Statement of Goals	Prizing 4) cherishing, being happy with the choice.	2. Transforming - so what? delving into the meaning of what has just happened. "So what does what I see mean to me?"
5. By observation or experiment, the hypothesis or hypotheses which look the most promising is/are tested.	5. Arriving at a tentative value decision.	5. Drawing tentative conclusions	5. Putting the chosen alternative into practice.	5. Lay out the alternatives	5) willing to affirm the choice publicly	
	6. Testing the value principle implied in the decision.	6. Decision-making, consequence testing, futuristic thinking.	6. Reevaluating the action and its consequences each time in the light of new experiences.	6. Predicting the consequences	Acting 6) doing something with the choice	3. Acting - now what? involves doing something about the experience perhaps in a new way.
				7. Acts necessary to bring about the consequences	7) repeatedly, in some pattern of life	
				8. Decision and Justification		
				9. Testing and Consistency		

Several steps were taken to acquaint project participants with this objective. A three-day workshop was conducted by David S. Abbey of Evaluation Research Limited, Toronto, for the project leaders. Abbey then prepared two publications which were distributed to the project teachers. Developing Instructional Objectives: A Teacher's Guidebook guided teachers in the formulation of objectives for classroom activities to meet the values objective. Valuing: A Discussion Guide is designed to provide a group of fifteen teachers with an intensive study of the process steps and the ability to create values experiences for the classroom. The Guide has also been found to work well with parents and students.

Values Inquiry and the other Project SEARCH Objectives

While all four major areas of concern - reasoning, affect, interdisciplinary approaches, and values inquiry - were being defined as separate entities, the importance of their interrelatedness became evident. Within the steps of the values inquiry process, the skills developed by students in the other three objectives found application:

Reasoning	- alternatives are given careful consideration for supposed knowledge in the light of the grounds that support it and the further conclusions to which it tends.
Affect	- alternatives are considered and acted upon when certain judgments are made about what "ought" to be done in the light of feelings and beliefs.
Interdisciplinary	- alternatives are considered in the light of several frames-of-reference which have been derived from integrating skills and experiences.

Values Inquiry Activities

Teachers and students in Project SEARCH developed and applied a great variety of values inquiry activities. They can be classified in several ways. For one, the basic posture taken is that values inquiry should not be scheduled in the school curriculum as a separate subject; therefore, teachers in any subject area could 1) anticipate the need for a values experience to be built into the upcoming content and design an experience (or utilize one from published materials) for the occasion; or 2) during the conduct of a class the need for inquiry about a value position in

subject elicits a spontaneous and creative experience by the teacher or by a student. The second case is the more ideal in that the process is understood and the skills acquired to the extent that they are applied as a natural component of learning.

A second classification involves experiences that help students to understand each of the six steps of the values inquiry process. For example, in many situations some students cannot identify more than one alternative (step 2) that may be available to them. "Mind Stretcher" activities accustom children to look for alternatives. One such activity has the class (or individual) develop the advantages and disadvantages of one's suddenly becoming ten feet tall. For step 3, teachers are creating short-term activities to help students acquire a variety of analytic skills. They point out that there are a number of "lenses" that one can apply to the examination of phenomena (alternatives) and they include the "scientific method," the "esthetic orders," "historic" method, and so forth. More examples of this class can be found in Abbey's Valuing Discussion Guide.

A third classification of values inquiry activities relates to applying the six steps to an understanding of a concept of human concern, such as Rebellion and its subsets Protest and Violence. Readings that take contrasting positions--for example Hendrik Ibsen's An Enemy of the People and J.S. Mill's On Liberty--constitute two alternatives which the students can choose and incorporate in behavior. From such experiences further activities can develop that involve the other important Project SEARCH strategies. That which involves community participation. The following occurred in the New Hartford project school:

Lisa Blanchfield was 15, a ninth grader at Ralph Perry Junior High School in the New Hartford Central School District, one of the seven pilot districts in the project. Lisa's father was a major in the Army Reserve. She was on the student council and in John McNair's English class. The class was involved in a program, using slides of great paintings and companion quotations, as examples of man's humanity and inhumanity to man. As a part of deepening their awareness, students had to list three examples of how people they knew, or they themselves, were inhumane. The students, in groups of four, decided how to act on their findings. The students had to try to rectify one of their own three transgressions, the group deciding which one. It would not be enough for a student who shoved people while boarding a bus to say he'd quit shoving. In that case, it was decided he should be the last to board the bus for a week, letting everyone get on ahead of him.

In Lisa's case the transgression was littering and sloppiness at home. So a recycling project for her own trash was suggested as her way of doing something about it. Being on the student council

she carried it further, organized a recycling project in school--separation of cans, glass and paper-- which was a notable success. She followed up with a community-wide effort which was launched after students brought home a questionnaire to their parents on joining a recycling program and received a heavily positive parental response.

The community recyclying effort was assisted by Lisa's father, who succeeded in involving the Army Reserve and the Boy Scout troop that the Reserve sponsors. A brewery donated cardboard barrels for glass pickup. The New Hartford Highway Department contributed a truck, a driver and two trailers to collect the trash, and recycling came in a big way to New Hartford. Door-to-door pickups are now a monthly event. The average family which recycles all its paper, glass and cans, contributes four fewer tons of trash a year to land pollution. In New Hartford, given this statistic and full community-wide response, it could mean 100,000 fewer tons a year.

The success of the project has been reported in ecology magazines; the system has been picked up by students and civic minded citizens in nearby Sauquoit and Utica and also in a town in New Hampshire. Since this happened, Lisa also conducted a contest in school to see which homeroom could collect the most books for prisoners in the Elmira Reformatory. The collection has amassed thousands of books. Teacher McNair said of Lisa that "She tends to be more concerned with humanitarian issues than most students her age, but what she got out of this whole thing is an answer to the question, 'what can I do about the problem?'"

This is a success story that is tangible, documentable and which altogether delights students, teachers, and managers involved in Project SEARCH. It is a principle realized, an idea bearing fruit, and is precisely what The University of the State of New York had in mind when it initiated SEARCH.

Selected Bibliography

The topic of values education has received such great interest among educators in recent years to have caused a large-scale response from publishers. The following suggestions are made to aid schools in the establishment of only a basic library.

General Theory

Baier, Kurt and Nicholas Rescher, (eds) Values and the Future. Collier-Macmillan. 1969. Implications of technology as economic and social values are dealt with as well as the principle of value change. Contains innovative group decision-making processes and survey instruments.

Beck, Clive. Moral Education in the Schools: Some Practical Suggestions. Ontario Institute for Studies in Education, Toronto, Canada. 1971. A compact overview of the current status of moral (values) education at all grade levels. Helpful references to the work of Kohlberg and Wilson.

Carr, William G. (ed.) Values and the Curriculum. National Education Association, Washington, D.C. 1970. Papers and reports of panels and discussion groups from an international (U.S., England and Canada) conference directed at educators in general and curriculum developers in particular.

Combs, Arthur (ed.) Perceiving, Behaving and Becoming. Association for Supervision and Curriculum Development, Washington, D. C. 1962. Essays by three humanists (Carl Rogers, Abraham Maslow, and Earl Kelly) lend themselves to in-depth studies throughout the book on concepts for humanistic education.

Fried, Charles. An Anatomy of Values: Problems of Personal and Social Choice. Harvard University Press, Cambridge Massachusetts. 1970. The author examines the ends (goals) men pursue and the ways in which these ends are ordered into a discernible and significant, though complex, structure. Ends are viewed in the light of love, friendship, trust, knowledge, beauty, life, death, justice, society and law.

Fulcher, Gordon S. Common Sense Decision-Making. Northwestern University Press, Evanston, Illinois. 1965. A detailed examination of the skills involved in decision-making on values. The author's steps closely parallel those of Project SEARCH.

Maslow, Abraham (ed.) New Knowledge in Human Values. Harper & Row, New York. 1959. Growing out of a need to counter the valuelessness seen in society, these papers address human values, moral, esthetic, spiritual, economic - and their application to the affairs and institutions of mankind.

Rogers, Carl. Freedom to Learn. Charles E. Merrill Publishing Company, Columbus, Ohio. 1969. As a leading humanistic psychologist, the author explains how schools can help students to become fully functioning. Chapter 12 offers his approach to the values inquiry.

Smith, Philip G. (ed.) Theories of Value and Problems of Education. University of Illinois Press, Urbana, Illinois. 1970. A collection of essays by leading value theorists and educators about the everyday valuing and evaluating that is involved in the conduct of schooling.

Practical

Borton, Terry. Reach, Touch and Teach. McGraw-Hill, New York. 1970. The author offers his basis for a highly affective approach, presents examples for application drawn from a number of projects. Basic thrust is to help children understand the process of change.

Raths, Louis E. Merrill Harmin and Sidney B. Simon. Values and Teaching: Working with Values in the Classroom. Charles E. Merrill Co., Columbus, Ohio. 1966. The authors outline a theory of values and a classroom methodology for values clarification. Contains many practical classroom activities.

Simon, Sidney B., Leland W. Howe and Howard Kirschenbaum. Values Clarification: A Handbook of Practical Strategies for Teachers and Students. Hart Publishing Company, New York. 1972. Follow-up to the previous work by Raths, Harmin and Simon. Contains 79 varied classroom exercises.

Print and other media for classroom use

Arnspringer, Clyde V., W. Roy Rucker and James A. Brill. The Human Values Series. Steck-Vaughn Company, Box 2028, Austin, Texas 78767. Series of books suitable for grades 3 through 7. Through stories, the books attempt to teach about affection, respect, skill, wealth, power, enlightenment, well-being and rectitude.

Churchill, Values Series. Churchill Films, 662 North Robertson Blvd., Los Angeles, California 90079. Series of open-ended dilemmas (1) for grades K-3; and (2) for grades 4-7.

First Things and the Adolescent Experience. Guidance Associates, Pleasantville, New York. Sound filmstrip series for elementary and secondary students dealing with ethical issues.

Gelatt, H. B. et al Decisions and Outcomes. Senior High School; and Deciding, Junior High School (College Entrance Examination Board, Princeton, New Jersey.) 1973. Exercises that relate decision-making to careers, skills and values. Designed to be used as a workbook.

McPhail, Peter, Lifeline. Argus Communications, 7440 Natchez Avenue, Niles, Illinois 60648. Developed in England, these multi-media interdisciplinary materials deal with social and interpersonal needs common to all civilized societies.

Mobley, Louis. Valuing Simulation. Mobley and Associates, 5000 Sheppard Lane, Ellicott City, Maryland 21043. A group discussion process which makes use of card decks containing contrasting value statements. Innovative factor is final synthesizing activity.

Nelson, Jack L. American Values Series: Challenges and Choices. Hayden Book Company, Inc., Rochelle Park, New Jersey. 1975. Designed to follow Nelson's valuing process, this series of books contains case studies, data banks, divergent viewpoints, futuristic scenarios and action ideas in the areas of Women's Rights, City Life, War, Dissent, Environment and others.

Sites, W. Kilmer and Barbara C. Blossom. Ethics in Perspective and Practice. Oceana Publications, Inc., Dobbs Ferry, New York. 1972. Developed out of a Vestal School District project. This book is intended to help young adults make responsible decisions on contemporary issues.

Social Studies and Values Series. The Center for Humanities, Inc., Two Holland Avenue, White Plains, New York 10603. Sound-slide series emphasize historic figures and events. Some literary illustrations are applied to historic themes.